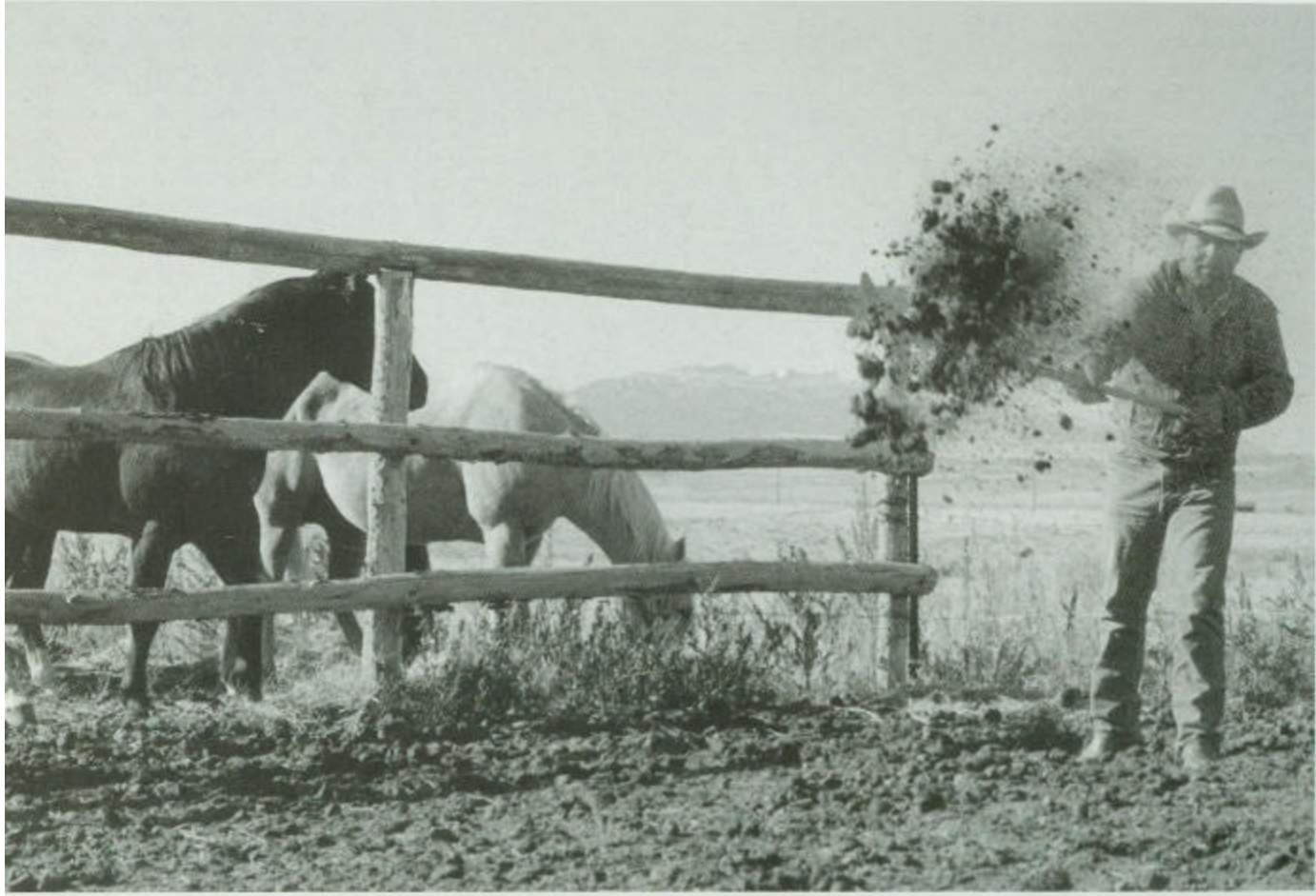


Practicing for Science Team Meeting

September 1970 - December 1977



SEPTEMBER 1970 - DECEMBER 1977

17-18 Nov. 2003

CERES Science Team Meeting

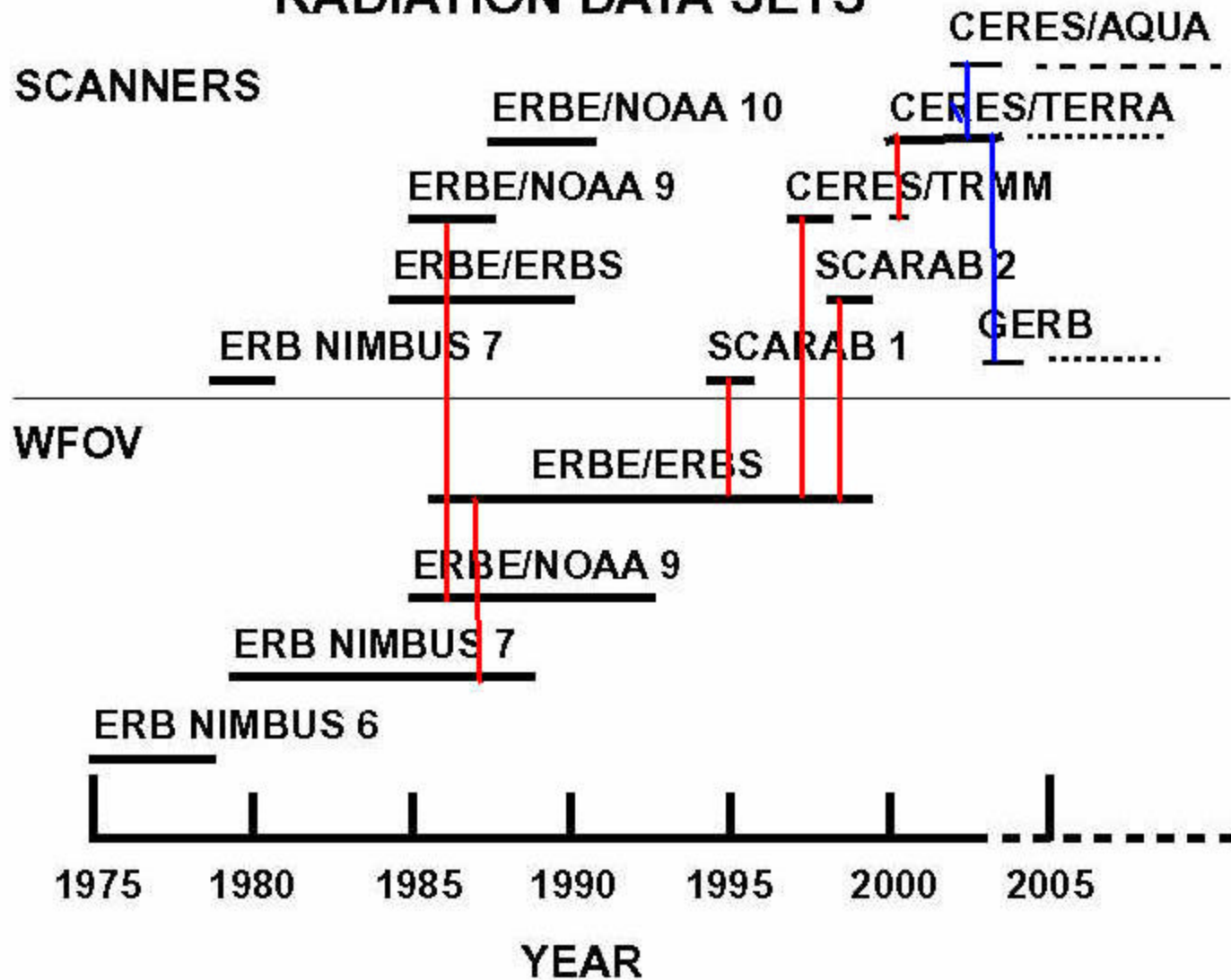
GERB/CERES Comparisons

G. Louis Smith, Z. Peter Szewczyk
and Pam E. Mlynczak

Langley Research Centre, NASA

CERES Science Team Meeting
17-18 November 2003

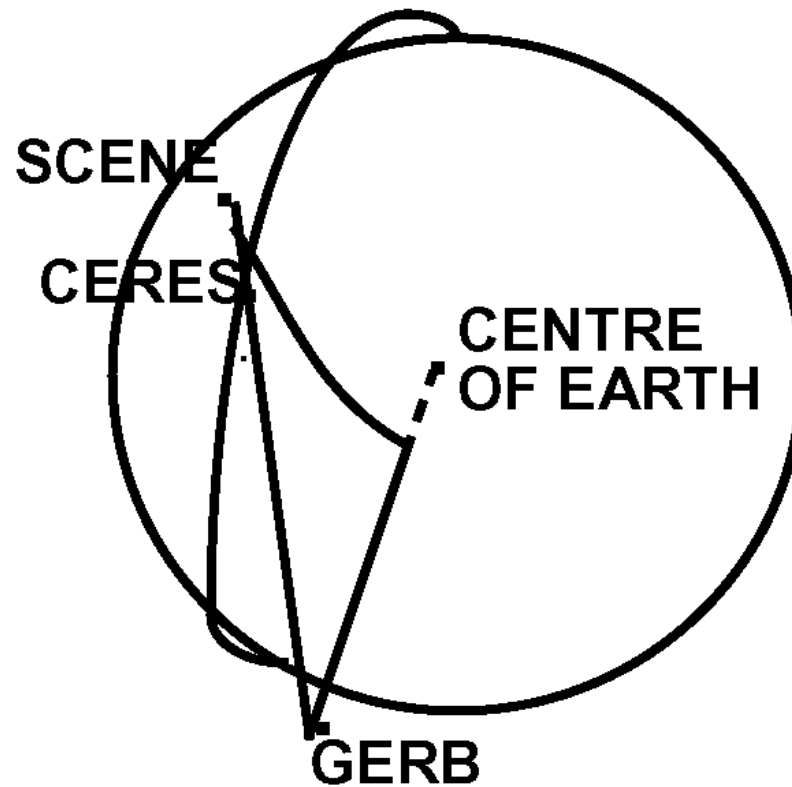
RADIATION DATA SETS



Bibliography of Measurement Comparisons for Radiation Budget Data Sets

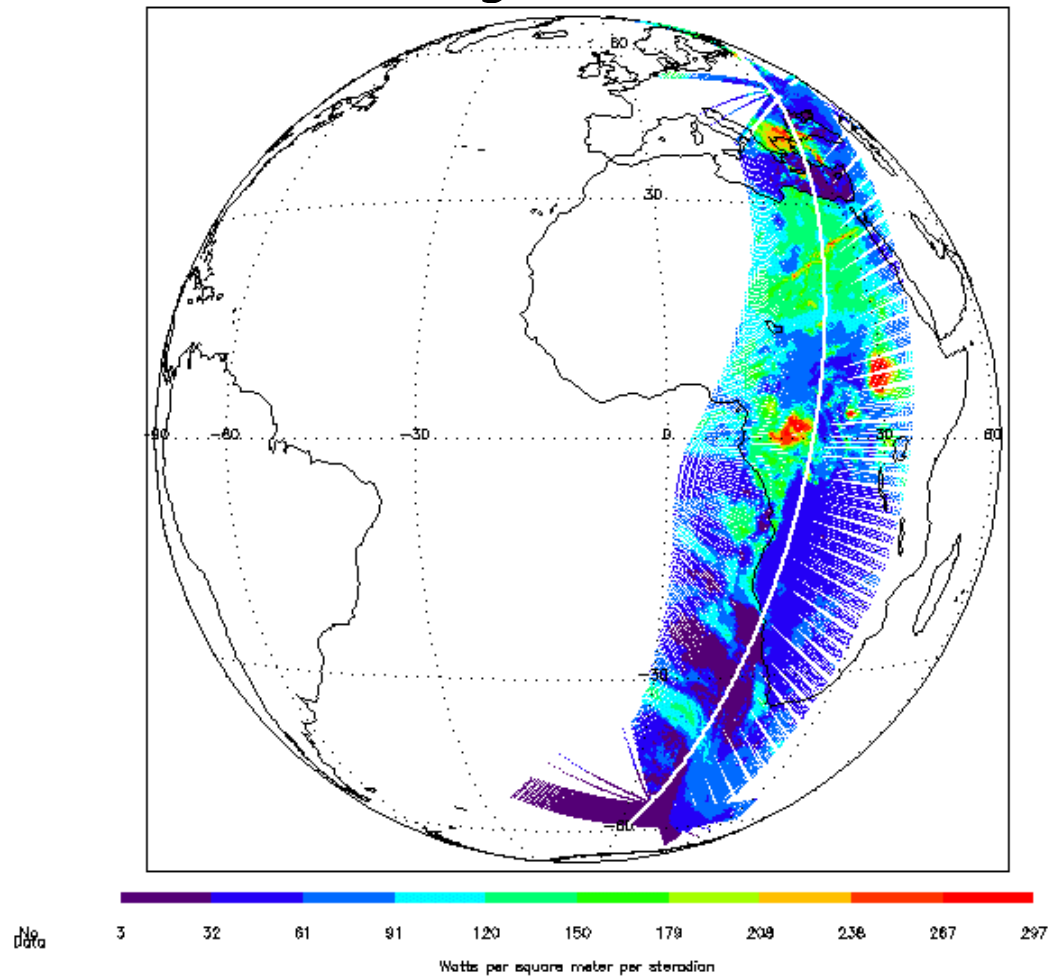
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CERES Scan Plane Rotation to Match GERB Radiance



CERES Underpass

24 May 9:00-9:30

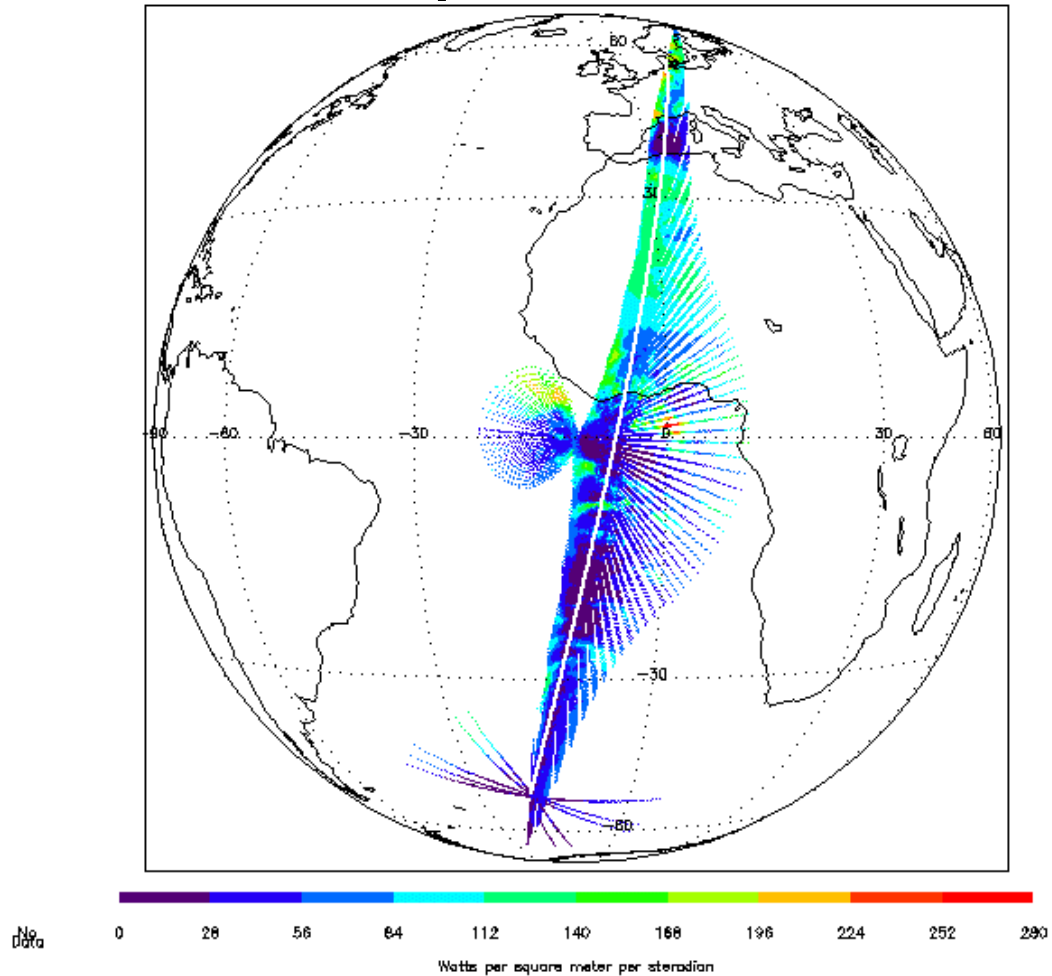


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CERES Underpass

24 May 10:40-11:10

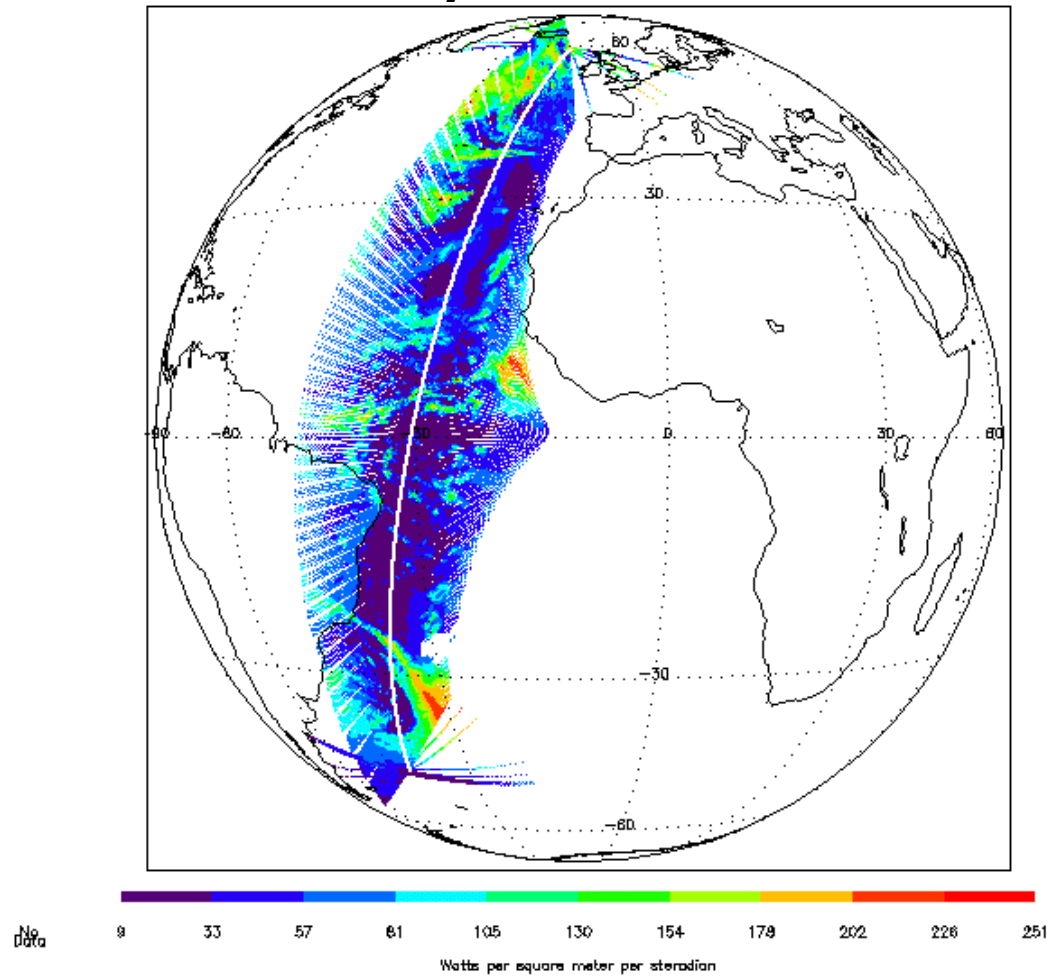


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CERES Underpass

24 May 12:15-12:45

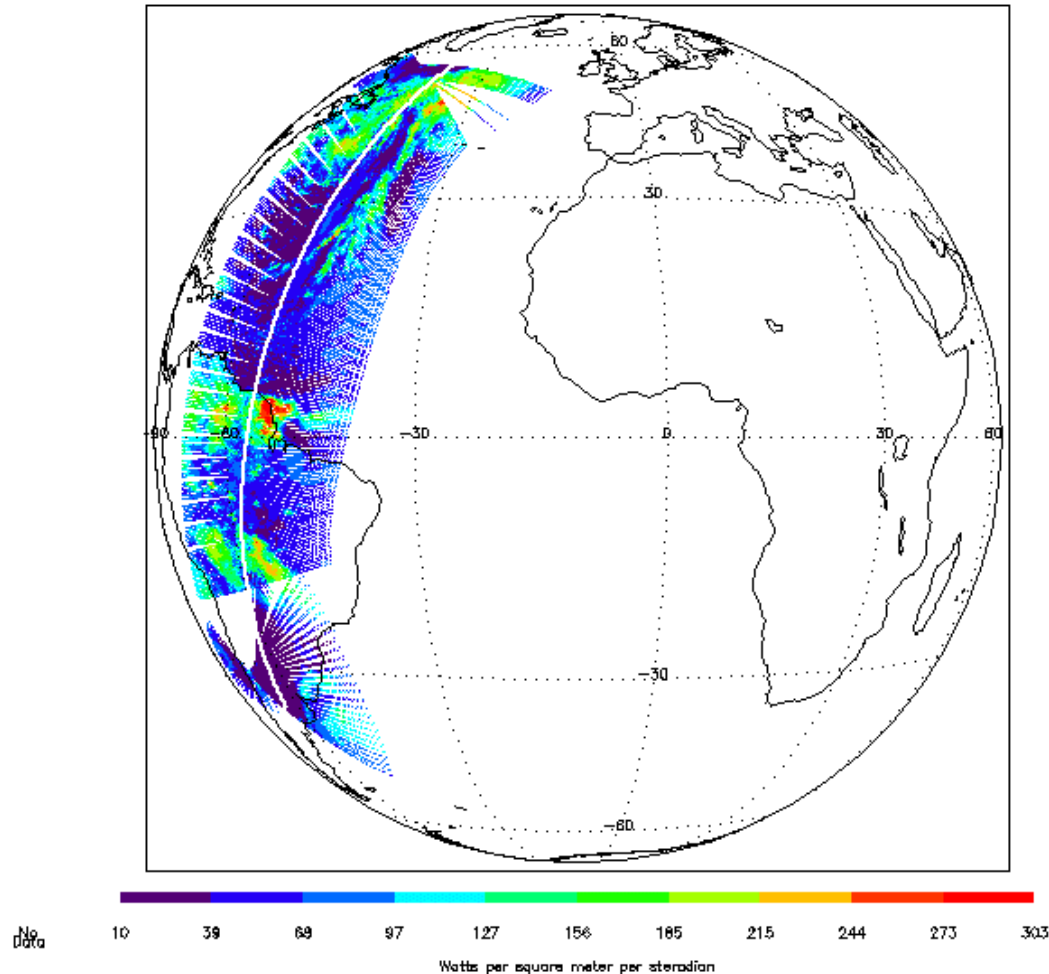


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CERES Underpass

24 May 14:00-14:20



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Geolocation Problem - Causes

The geolocation error is due to errors in east-west and north-south directions.

The north-south error is due to tilt of S/C spin axis relative to orbit. It will decrease as orbit is brought to 0 inclination.

The east-west error is due to time of start of line
Tsol variations caused by axis tilt and sunlight refracted by atmosphere.

Geolocation Problem - Activities

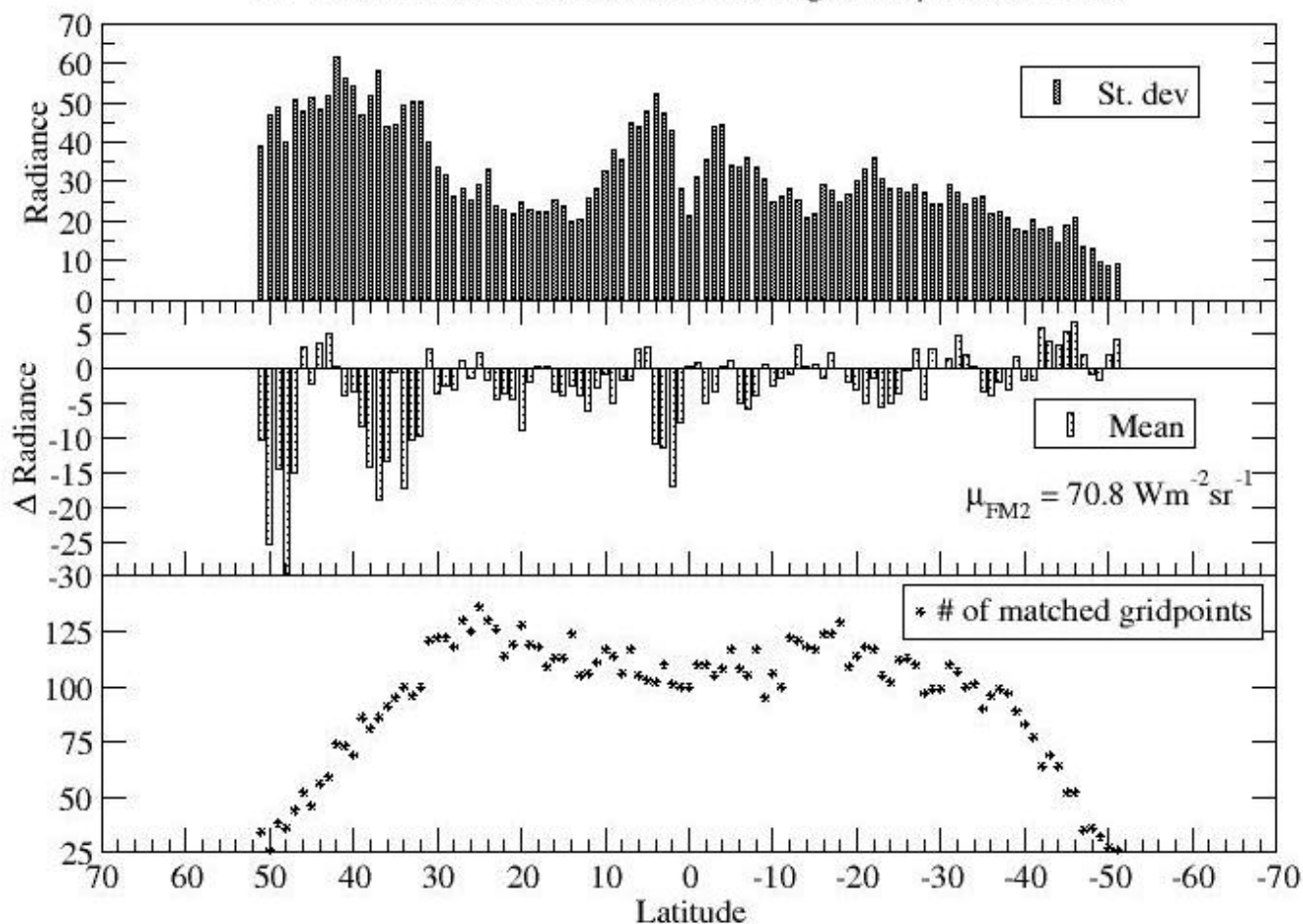
ESA, Alcatel and RAL working aspects of problem.

Goal (September) was to work most of problem by November and at latest by December.

Martin Bates (RAL) has developed algorithm for doing geolocation. Very time consuming.

Difference (GERB - FM2) for All Scene Types

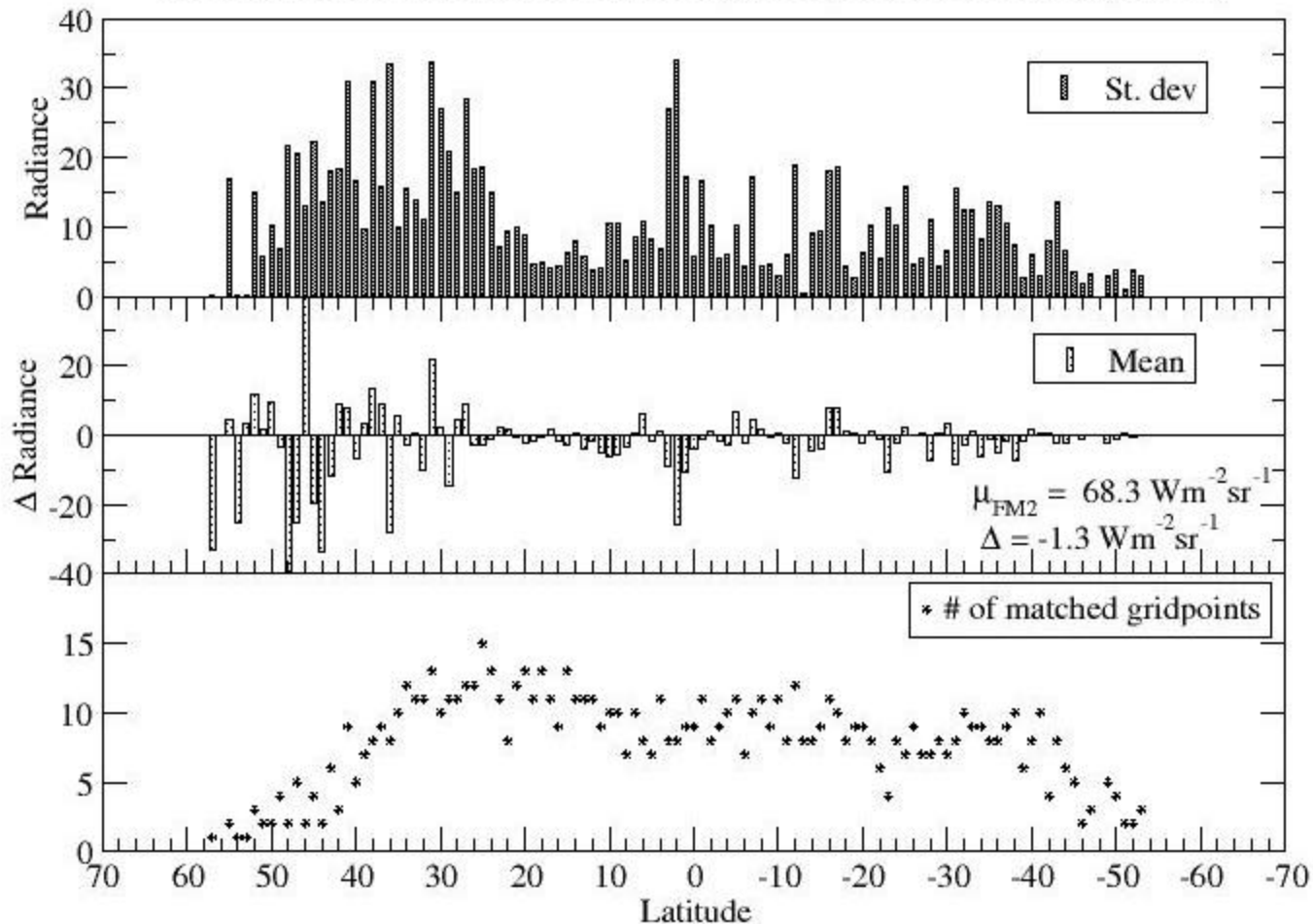
SW unfiltered radiance; Number of averaged footprints: $G > 3$ $C > 7$



All days_with geolocation errors

Difference (GERB - FM2) for All Scene Types

SW unfiltered radiance; Number of averaged footprints: $G > 3$ $C > 7$; May 24 only

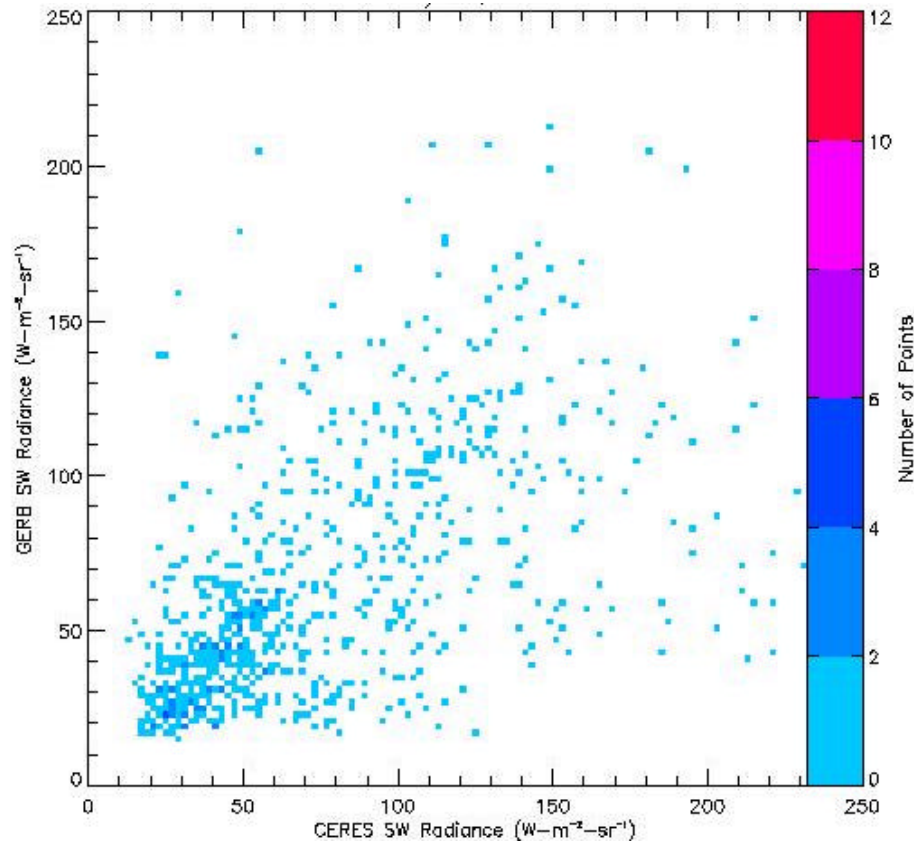


24 May _ Good geolocations

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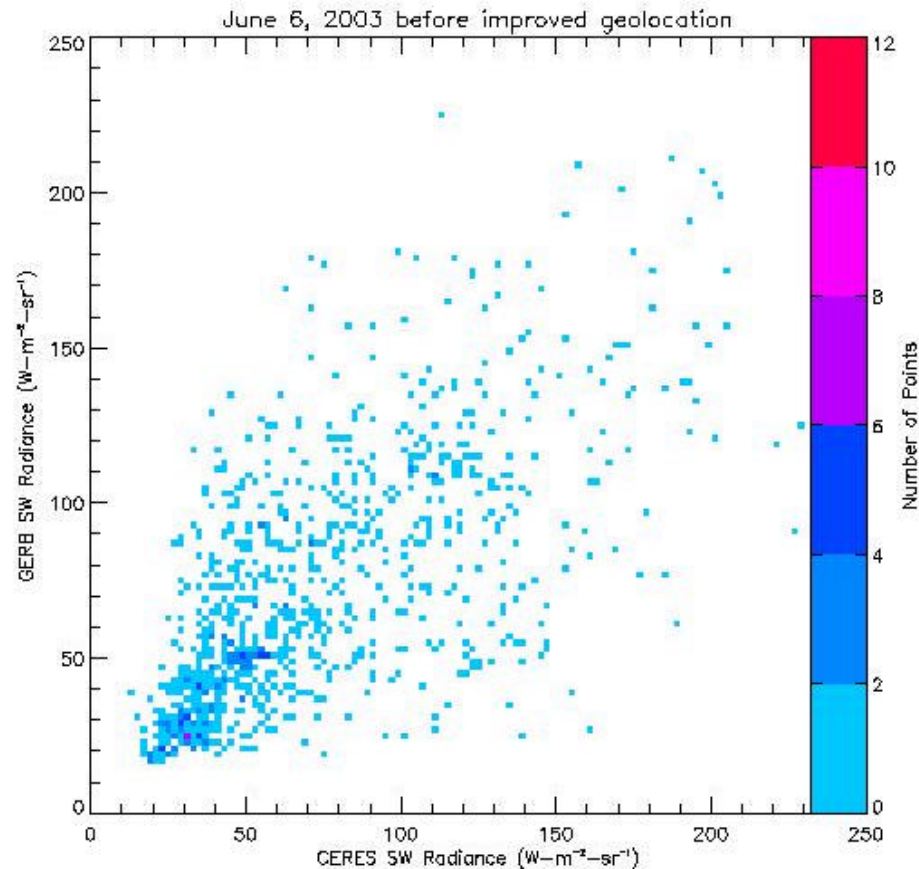
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GERB and CERES radiances for 31 May 2002 (Bad geolocations)



Histogram of GERB and CERES Measurements

6 June 2003: Bad Geolocations

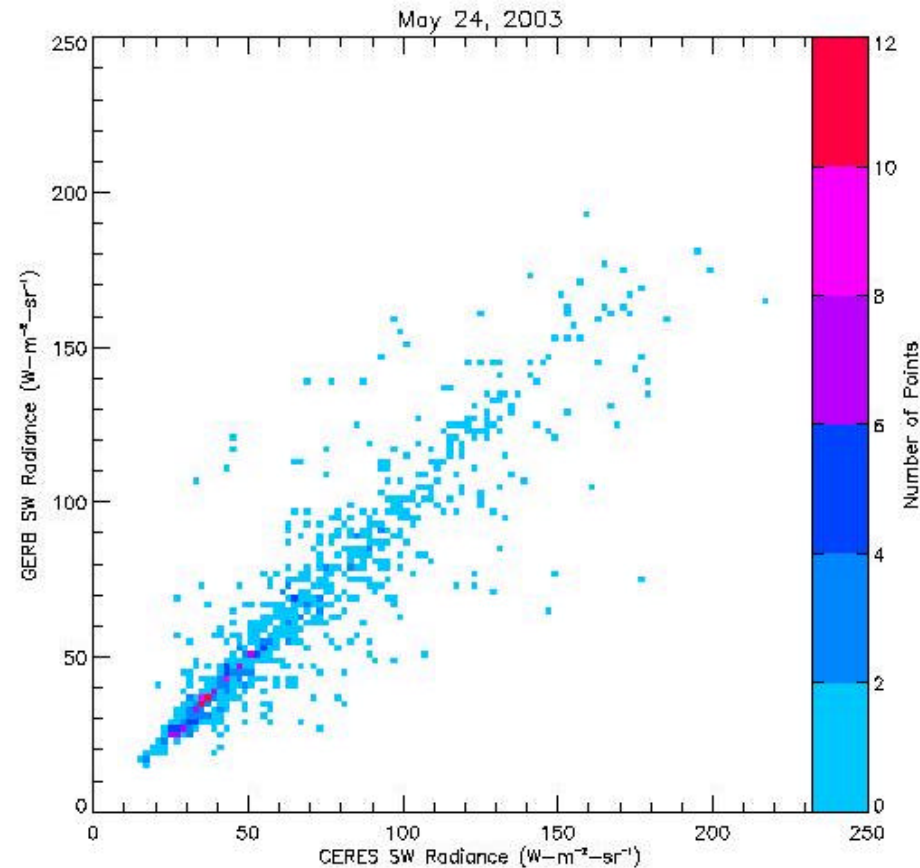


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Histogram of GERB and CERES Measurements

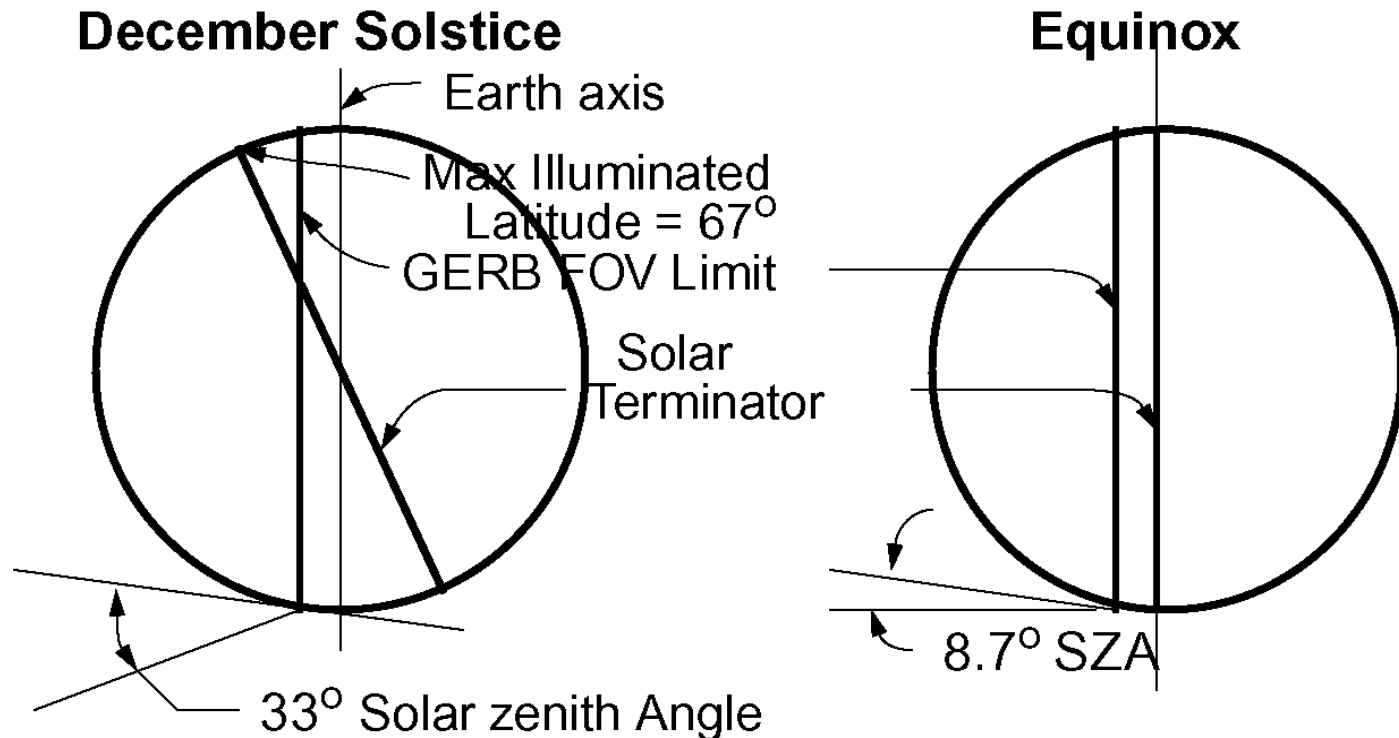
24 May 2003: Good Geolocations



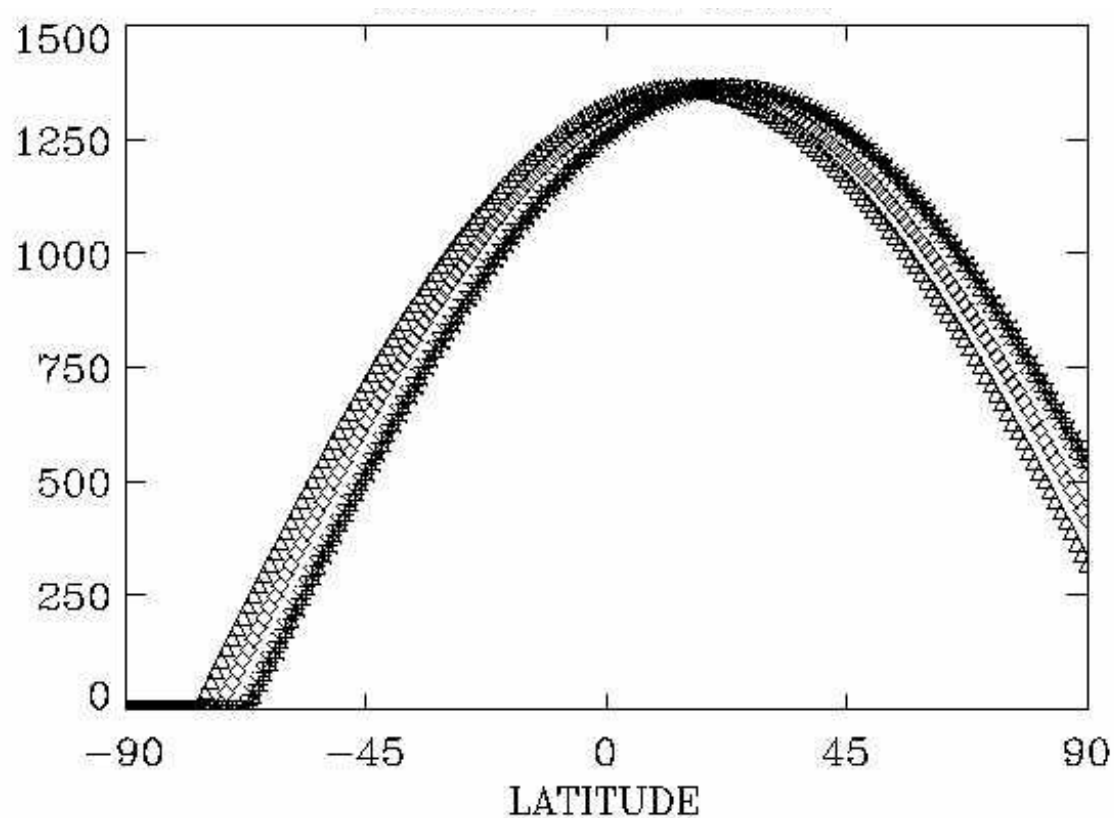
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SEASONS, SOLAR DECLINATION AND WHEN TO COMPARE GERB AND CERES RADIANCES



Insolation at June Solstice



Summary

- Preliminary Results of GERB/CERES Comparisons are Mixed.
- Software being Developed for Further Analysis.
- GERB/CERES Comparison Work is Ongoing.
- A Campaign is Needed in December for Southern Latitudes.
- Geolocation is a major problem..